THE CLAIMS

What is claimed is:

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5 1. A pharmaceutical composition for treating or preventing hypertension, inflammation, peripheral pain, gastrointestinal disorders, or autoimmune diseases, comprising as an active ingredient a compound of the general formula:

having the (3S,4S) configuration, and which is essentially free of the (3R,4R) enantiomer, wherein:

the dashed line A---B designates an optional double bond,

 R_1 is (a) -R'N(R")₂ wherein R' is C_1 - C_5 straight or branched chain alkyl and each R", which may be the same or different, is hydrogen or C_1 - C_5 straight or branched chain alkyl optionally containing a terminal -OR" or -OC(O)R" moiety wherein R" is hydrogen or C_1 - C_5 straight or branched chain alkyl, (b) -Q wherein Q is a heterocyclic moiety having a labile hydrogen atom so that said moiety acts as a carboxylic acid analogue, (c) -R'X wherein R' is C_1 - C_5 straight or branched chain alkyl and X is halogen, (d) -R'C(O)N(R")₂ wherein R' is a direct bond or C_1 - C_5 straight or branched chain alkyl and each R", which may be the same or different, is hydrogen or C_1 - C_5 straight or branched chain alkyl optionally containing a terminal -OR" or -OC(O)R" moiety wherein R" is hydrogen or C_1 - C_5 straight or branched chain alkyl optionally containing a terminal alkyl and R" is hydrogen or C_1 - C_5 straight or branched chain alkyl optionally containing a terminal -OR" or

-OC(O)R" moiety wherein R" is hydrogen or C_1 - C_5 straight or branched chain alkyl, (f) -R' wherein R' is C_1 - C_5 straight or branched chain alkyl, or (g) -R'OR" wherein R' is C_1 - C_5 straight or branched chain alkyl and R" is hydrogen or C_1 - C_5 alkyl;

G is hydrogen; and

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- R₃ is (a) C₁-C₁₂ straight or branched chain alkyl, (b) -OR"", in which R"" is a straight chain or branched C₂-C₉ alkyl which may be substituted at the terminal carbon atom by a phenyl group, or (c) -(CH₂)_nOR" wherein n is an integer of 1 to 7 and R" is hydrogen or C₁-C₅ alkyl.
- 10 2. The compound of claim 1, wherein R_3 is a straight or branched chain C_5 - C_{12} alkyl.
 - 3. The compound of claim 1, wherein R₃ is 1,1-dimethyl heptyl or 1,2-dimethyl heptyl.
- The compound of claim 1 wherein Q is a saturated or unsaturated ring of 4 to 8 members
 consisting of C with at least one of N, S, and O, said ring being optionally substituted with COR" or -COOR" wherein R" is a hydrogen or C₁-C₅ straight or branched chain alkyl.
 - 5. The compound of claim 1, wherein R₁ is -CH₂OH, -C(O)N(R'')₂, -C(O)OR'', -COOH, an amino acid, or a carboxamide.
 - 6. A pharmaceutical composition for treating, preventing, or managing hypertension, inflammation, peripheral pain, gastrointestinal disorders, or autoimmune diseases comprising as an active ingredient a therapeutically effective amount of a compound of claim 1.
- 7. The pharmaceutical composition of claim 6 further comprising a pharmaceutically acceptable diluent or carrier.
- 8. The pharmaceutical composition of claim 7, wherein the diluent is an aqueous cosolvent solution comprising a pharmaceutically acceptable cosolvent, a micellar solution or emulsion
 30 prepared with natural or synthetic ionic or non-ionic surfactants, or a combination of such cosolvent and micellar or emulsion solutions.

9. A method for preventing, treating, or managing hypertension, inflammation, peripheral pain, gastrointestinal disorders, or autoimmune diseases comprising administering to an individual in need thereof a pharmaceutical composition comprising a therapeutically effective amount a compound of the general formula:

5 having the (3S,4S) configuration, and which is essentially free of the (3R,4R) enantiomer, wherein:

A---B designates an optional double bond,

R₁ is (a) -R'N(R")₂ wherein R' is C₁-C₅ straight or branched chain alkyl and each R", which may be the same or different, is hydrogen or C₁-C₅ straight or branched chain alkyl optionally containing a terminal -OR" or -OC(O)R" moiety wherein R" is hydrogen or C₁-C₅ straight or branched chain alkyl, (b) -Q wherein Q is a heterocyclic moiety having a labile hydrogen atom so that said moiety acts as a carboxylic acid analogue, (c) -R'X wherein R' is C₁-C₅ straight or branched chain alkyl and X is halogen, (d) -R'C(O)N(R")₂ wherein R' is a direct bond or C₁-C₅ straight or branched chain alkyl and each R", which may be the same or different, is hydrogen or C₁-C₅ straight or branched chain alkyl optionally containing a terminal -OR" or -OC(O)R" moiety wherein R" is hydrogen or C₁-C₅ straight or branched chain alkyl, (e) - R'C(O)OR" wherein R' is a direct bond or C₁-C₅ straight or branched chain alkyl and R" is hydrogen or C₁-C₅ straight or branched chain alkyl optionally containing a terminal -OR" or -OC(O)R" moiety wherein R' is hydrogen or C₁-C₅ straight or branched chain alkyl, (f) -R' wherein R' is C₁-C₅ straight or branched chain alkyl, (g) -R'OR" wherein R' is C₁-C₅ straight or branched chain alkyl, (f) -R' wherein R' is C₁-C₅ straight or branched chain alkyl, or (g) -R'OR" wherein R' is C₁-C₅ straight or branched chain alkyl, is hydrogen or C₁-C₅ alkyl;

G is hydrogen, halogen, or $-OR_2$ wherein R_2 is hydrogen or C_1 - C_5 straight or branched chain alkyl optionally containing a terminal -OR''', -OC(O)R''', C(O)OR''', or -C(O)R'' moiety wherein R''' is hydrogen or C_1 - C_5 straight or branched chain alkyl; and

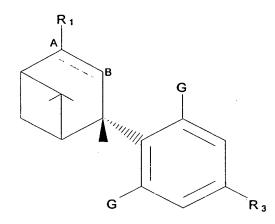
 R_3 is (a) C_1 - C_{12} straight or branched chain alkyl, (b) -OR"", in which R"" is a straight chain or branched C_2 - C_9 alkyl which may be substituted at the terminal carbon atom by a phenyl group, or (c) -(CH₂)_nOR" wherein n is an integer of 1 to 7 and R" is hydrogen or C_1 - C_5 alkyl.

- 10. The method of claim 9 wherein, R_1 is -CH₂OH, G is hydrogen or OR_2 , R_2 is a lower alkyl group, and R_3 is a straight or branched chain C_5 - C_{12} alkyl.
- 11. The method of claim 10, wherein G is -OCH₃ and R₃ is 1,1-dimethyl heptyl.

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- 12. The method of claim 10, wherein R_1 is -CH₂OH, G is -OCH₃, and R_3 is 1,1-dimethyl heptyl.
- 13. A method for preventing, treating, or managing tumors expressing CB2 receptors comprising administering to an individual in need thereof a pharmaceutical composition comprising a therapeutically effective amount a compound of the general formula:



having the (3S,4S) configuration, and which is essentially free of the (3R,4R) enantiomer, wherein:

A---B designates an optional double bond,

R₁ is (a) -R'N(R")₂ wherein R' is C₁-C₅ straight or branched chain alkyl and each R", which may be the same or different, is hydrogen or C₁-C₅ straight or branched chain alkyl optionally containing a terminal -OR" or -OC(O)R" moiety wherein R" is hydrogen or C₁-C₅ straight or branched chain alkyl, (b) -Q wherein Q is a heterocyclic moiety having a labile hydrogen atom so that said moiety acts as a carboxylic acid analogue, (c) -R'X wherein R' is C₁-C₅ straight or branched chain alkyl and X is halogen, (d) -R'C(O)N(R")₂ wherein R' is a direct bond or C₁-C₅ straight or branched chain alkyl and each R", which may be the same or different, is hydrogen or C₁-C₅ straight or branched chain alkyl optionally containing a terminal -OR" or -OC(O)R" moiety wherein R" is hydrogen or C₁-C₅ straight or branched chain alkyl, (e) - R'C(O)OR" wherein R' is a direct bond or C₁-C₅ straight or branched chain alkyl and R" is hydrogen or C₁-C₅ straight or branched chain alkyl optionally containing a terminal -OR" or -OC(O)R" moiety wherein R" is hydrogen or C₁-C₅ straight or branched chain alkyl, (f) -R' wherein R' is C₁-C₅ straight or branched chain alkyl, (g) -R'OR" wherein R' is C₁-C₅ straight or branched chain alkyl, (f) -R' wherein R' is C₁-C₅ straight or branched chain alkyl, is hydrogen or C₁-C₅ alkyl;

G is hydrogen, halogen, or -OR₂ wherein R₂ is hydrogen or C₁-C₅ straight or branched chain alkyl optionally containing a terminal -OR", -OC(O)R", C(O)OR", or -C(O)R" moiety wherein R" is hydrogen or C₁-C₅ straight or branched chain alkyl; and

 R_3 is (a) C_1 - C_{12} straight or branched chain alkyl, (b) -OR"", in which R"" is a straight chain or branched C_2 - C_9 alkyl which may be substituted at the terminal carbon atom by a phenyl group, or (c) -(CH₂)_nOR" wherein n is an integer of 1 to 7 and R" is hydrogen or C_1 - C_5 alkyl.

- 14. The method of claim 13 wherein, R_1 is -CH₂OH, G is hydrogen or OR₂, R_2 is a lower alkyl group, and R_3 is a straight or branched chain C_5 - C_{12} alkyl.
- 25 15. The method of claim 14, wherein G is -OCH₃ and R₃ is 1,1-dimethyl heptyl.

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- 16. The method of claim 14, wherein R_1 is -CH₂OH, G is -OCH₃, and R_3 is 1,1-dimethyl heptyl.
- 30 17. A CB2 specific antagonist comprising a compound of the general formula:

having the (3S,4S) configuration, and which is essentially free of the (3R,4R) enantiomer, wherein:

A---B designates an optional double bond,

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R₁ is (a) -R'N(R")₂ wherein R' is C₁-C₅ straight or branched chain alkyl and each R", which may be the same or different, is hydrogen or C₁-C₅ straight or branched chain alkyl optionally containing a terminal -OR" or -OC(O)R" moiety wherein R" is hydrogen or C₁-C₅ straight or branched chain alkyl, (b) -Q wherein Q is a heterocyclic moiety having a labile hydrogen atom so that said moiety acts as a carboxylic acid analogue, (c) -R'X wherein R' is C₁-C₅ straight or branched chain alkyl and X is halogen, (d) -R'C(O)N(R")₂ wherein R' is a direct bond or C₁-C₅ straight or branched chain alkyl and each R", which may be the same or different, is hydrogen or C₁-C₅ straight or branched chain alkyl optionally containing a terminal -OR" or -OC(O)R" moiety wherein R" is hydrogen or C₁-C₅ straight or branched chain alkyl, (e) - R'C(O)OR" wherein R' is a direct bond or C₁-C₅ straight or branched chain alkyl and R" is hydrogen or C₁-C₅ straight or branched chain alkyl optionally containing a terminal -OR" or -OC(O)R" moiety wherein R" is hydrogen or C₁-C₅ straight or branched chain alkyl, (f) -R' wherein R' is C₁-C₅ straight or branched chain alkyl, or (g) -R'OR" wherein R' is C₁-C₅ straight or branched chain alkyl, or (g) -R'OR" wherein R' is C₁-C₅ straight or branched chain alkyl and R" is hydrogen or C₁-C₅ alkyl;

G is hydrogen, halogen, or $-OR_2$ wherein R_2 is hydrogen or C_1 - C_5 straight or branched chain alkyl optionally containing a terminal -OR''', -OC(O)R''', C(O)OR''', or -C(O)R''' moiety wherein R''' is hydrogen or C_1 - C_5 straight or branched chain alkyl; and

 R_3 is (a) C_1 - C_{12} straight or branched chain alkyl, (b) -OR"", in which R"" is a straight chain or branched C_2 - C_9 alkyl which may be substituted at the terminal carbon atom by a phenyl group, or (c) -(CH₂)_nOR" wherein n is an integer of 1 to 7 and R" is hydrogen or C_1 - C_5 alkyl.